

REMARKS

Claims 1 and 3-7 are pending in the application. Claims 1, 3, 4, 6 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Berman in view of Black et al. Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Berman in view of Black, and further in view of Coffey. Claims 1 and 3 have been amended. A Request for Continued Examination (RCE) is being filed concurrently herewith. Reconsideration and reexamination of the application in view of the following remarks is respectfully requested.

Claims 1, 3, 4, 6 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Berman in view of Black. Claims 1 and 3 have been amended. With the amendments to claims 1 and 3, it is respectfully submitted that the rejection of claims 1, 3, 4, 6 and 7 have been overcome.

The Office Action suggests that Applicants' arguments were not persuasive because they described a "primitive switch" and "routing based on primitives," neither of which are explicitly mentioned in the claims. Accordingly, claim 1 has been amended to recite:

the route determination apparatus configured for *routing based on primitives* by programming the crossbar switch to establish direct paths between the first and second ports in the crossbar switch according to received OPN arbitrated loop primitives . . . wherein the crossbar switch is configured as a *primitive switch* that creates the direct paths between the first and second ports based on the OPN arbitrated loop primitives.

(Emphasis added.) Similarly, claim 3 has been amended to recite:

route determination apparatus . . . configured for *routing based on primitives* by selecting a direct route between the first and second ports based on received Fibre Channel Arbitrated Loop primitives . . . and a crossbar switch directly coupled to . . . the route determination apparatus . . . , the crossbar switch configured as a *primitive switch* for switching frames between ports under control of the route determination apparatus.

(Emphasis added.) Therefore, it is respectfully submitted that the rejections of claims 1 and 3 as lacking the phrases "routing based on primitives" and "primitive switch" have been overcome.

In reaching a conclusion of obviousness, the Office Action admits that direct paths between the ports created based on the OPN arbitrated loop primitives” is not disclosed in Berman. However, the Office Action goes on to state that Black discloses routing based on FC_AL OPN primitives to establish a direct connection between source and remote ports, and that one skilled in the art would have been motivated to “modify the fiber channel arbitration method of Berman with the teaching of Black in creating a direct path connection between two ports based on the OPN primitives.” The stated motivation to combine the two references was “to use OPN primitives, instead of the frame of data . . . to deduce the location of the destination node and cut out all subloops and nodes thereon not necessary for communication between the source and destination nodes . . .”

However, this is no motivation at all to route based on primitives instead of frames, because *either one* provides direct routing to eliminate unnecessary loops and nodes. In other words, because direct routing is also achieved by routing based on frames, this cannot provide the motivation for one skilled in the art to route based on primitives instead of frames.

As stated in the guidelines published in the Federal Register, Vol. 72, No. 195, pages 57527, “the ‘operative question’ in assessing obviousness is ‘whether the improvement is *more than the predictable use* of prior art elements according to their *established functions*.’” *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007), emphasis added. “The focus should be ‘on what a person of ordinary skill in the pertinent art would have known at the time of the invention, and on *what such a person would have reasonably expected to have been able to do* in view of that knowledge.’” *Id.*, emphasis added.

The Applicants understand that the present Office Action was written before the guidelines were published. Nevertheless, the Office Action should comply with the guidelines. However, the Office Action ignores the fundamental differences between a frame switch and a primitive switch.

The *established function* of the apparatus in Berman is to act upon *OPN frames* and route based on the D_ID. As such, the *predictable use* of the route determination apparatus in Berman is described as a *frame level* route determination apparatus. Berman cannot be trivially modified to route based on primitives (see, e.g., col. 11 lines 10-16, col. 13 lines 7-12 and col. 14 lines 27-31 of Berman). The port control is described as having buffering, which cannot be used to buffer OPN primitives (see col. 14 lines 23-31 and FIG. 17), and an active loop port (L_Port) state machine that terminates protocols (see col. 14 lines 19-20 and FIG. 17). Claim 1 of Berman (col. 20 lines 43-46) explicitly discloses a FC_AL port state machine implementing the FC_AL protocol, including ARBs, OPNs and Closes, the state machine including and active L_Port, which is well-understood in accordance with the FC_AL standard as a device that terminates the sequence-level protocol. All of this is specifically designed for a frame level switch and not a primitive layer switch.

Furthermore, it is not possible to trivially convert Berman from a frame switch to a primitive switch, or to take one teaching of the primitive switch in Black and utilize it with the teachings of Berman. In fact, most of the architecture in Berman would have to be discarded and re-designed to accommodate primitive switching. In particular, to modify Berman to support routing based on primitives, the router would have to be changed to look at primitives instead of frames, the port logic would have to be changed to eliminate the buffering, and the loop port state machine would have to be discarded because it terminate primitives. Such changes go *far beyond the predictable use* of prior art elements according to their *established functions*. Because of this fundamental incompatibility, a person skilled in the art *would not at all have reasonably expected to simply utilize the frame routing teachings of Berman with those of Black*.

Accordingly, because one skilled in the art would not have been motivated to combine the teachings of Berman with the teachings of Black, it is respectfully submitted that the rejection of claims 1, 3, 4, 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over Berman in view of Black has been traversed.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Berman in view of Black, and further in view of Coffey. This rejection is also respectfully traversed.

As discussed above, one skilled in the art would not have been motivated to combine the teachings of Berman with the teachings of Black. Because Berman and Black cannot be combined, the three references cannot be combined, and it is respectfully submitted that the rejection of claim 5 under 35 U.S.C. §103(a) as being unpatentable over Berman in view of Black and further in view of Coffey has been traversed.

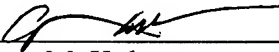
In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If, for any reason, the Examiner finds the application other than in condition for allowance, Applicants request that the Examiner contact the undersigned attorney at the Los Angeles telephone number (213) 892-5752 to discuss any steps necessary to place the application in condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. 491442011620.

Dated: October 31, 2007

Respectfully submitted,

By 
Glenn M. Kubota
Registration No.: 44,197
MORRISON & FOERSTER LLP
555 West Fifth Street, Suite 3500
Los Angeles, California 90013
(213) 892-5200